



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,880	01/10/2001	Yohei Itoi	Q62522	6195

7590 05/23/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

JOHNSTONE, ADRIENNE C

ART UNIT	PAPER NUMBER
----------	--------------

1733

9

DATE MAILED: 05/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,880

Applicant(s)

ITOI, YOHEI

Examiner

Adrienne C. Johnstone

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Claim 8 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 5 (see Paper Number 6 paragraph 1).

Response to Amendment

2. It is noted that in claim 4, presented as "Original" in the amendment filed February 24, 2003, the word "cord" was inadvertently dropped from the term "the reinforcing cord layer". The examiner has restored the original text of claim 4 by inserting -- cord -- between "reinforcing" and "layer" in the current version of claim 4, however any subsequent version of claim 4 submitted by applicant in response to this Office action should accurately reflect the original text of claim 4.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 2, 4, 5, 7, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Application 10-44721 A.

See the abstracts, figures, and translation: tread 18; sidewalls 14; radial carcass 20 turned up from inside to outside around bead cores 24 in respective bead portions 12; tapered bead filler rubber 26; and reinforcing cord layer 30 extending from slightly above the bead core 24 in the bead portion 12 to the tread shoulder 16, with rubberized cords 34 spirally wound about the rotation axis of the tire. As to claim 2, both Figure 1 and Figure 9b clearly depict the inner end of the reinforcing cord layer 30 within applicant's broad range of 3-50% of the tire section height. As to claim 4, see translation paragraphs 0017-0018. As to claim 5, the reinforcing cord layer end

Art Unit: 1733

count in Example 2 is 10/10 mm - 50/5 cm (Table 2, determined through oral translation). As to claim 7, the exemplary tire section height is 195 mm x 0.65 - 127 mm (translation paragraph 0033) and the exemplary carcass turnup height is 10 mm (Table 1, determined through oral translation) so the exemplary carcass turnup height is 8% of the tire section height. As to claim 9, see the embodiment of Figure 9a (translation paragraphs 0030-0031). As to claim 10, see translation paragraph 0016 and Figure 1.

5. Claims 1-5, 7, 9, and 10 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Boileau (3,904,463) optionally taken with *The Story of Tire Beads and Tires*.

This rejection is repeated from Paper Number 6 paragraph 7. As to applicant's arguments, see col. 1 line 48 - col. 4 line 59 and Figures 1 and 6: tread 2; sidewalls 3; radial carcass 6 turned up from inside to outside around bead cores 9 in respective bead portions; tapered bead filler rubber 18; and reinforcing cord layers 14 and 15 extending in each sidewall inside the carcass turnup between the bead wire 9 and a point 12 located past the middle 13 of the sidewall and the carcass turnup end, with rubberized cords parallel to the circumferential direction and spirally wound about the equatorial axis of the tire (the claims as currently drafted do not specify the axis of winding to be the rotation axis of the tire). As to applicant's argument concerning the 100% modulus of bead filler rubber 18, it should be noted that 1) no 100% modulus limitation for the bead filler rubber is claimed, and 2) one of ordinary skill in the art would have understood the term "bead filler rubber" to have its normal art-recognized meaning (a rubber filling a space radially outside the bead core, regardless of mechanical properties such as 100% modulus: see for example *The Story of Tire Beads and Tires* p. 3) absent explicit disclosure to the contrary. (The optional multiple reference rejection is properly made as an anticipation rejection because the second reference is used only to show that a characteristic not explicitly disclosed in Boileau - the rubber 18 constituting a "bead filler rubber" within the art-recognized meaning of the term - is

Art Unit: 1733

inherent. See MPEP 2131.01.) As to claim 2, Figure 2 clearly depicts the inner end of the reinforcing cord layers within applicant's broad range of 3-50% of the tire section height. As to claim 3, the reinforcing cord layers extend over at least 75% of the tire section height (col. 2 lines 56-61). As to claim 4, the reinforcing cord layer cords may be polyamide (nylon) (col. 2 lines 43-44). As to claim 5, the exemplary reinforcing cord layer end count is 1 cord/1.6 mm = 31 cords/5cm. As to claim 7, Figure 2 clearly depicts the carcass turnup height within applicant's broad range of 5-45% of the tire section height.

One way to overcome this rejection would be to specify in claim 1 that the "axial line of the tire" is in fact the axis of rotation of the tire (axis X in Figure 2).

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1-4, 7, 9, and 10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese Patent Application 10-230714 A.

See the abstracts, figures, and translation: the tire in Figure 1 is clearly depicted as having the claimed tread, sidewalls 16, radial carcass 17 turned up from inside to outside around bead cores in respective bead portions 15, tapered bead filler rubber, and reinforcing cord layer 13 extending from slightly above the bead core in the bead portion to the tread shoulder 14, with tape 10 of rubberized cords spirally wound about the rotation axis of the tire; in any case, it would have been obvious to one of ordinary skill in the art to provide such basic tire structure including the claimed tread, bead cores, and tapered bead filler rubber in the above tire. As to claim 2, Figure 1 clearly depicts the inner end of the reinforcing cord layer 13 within applicant's broad range of 3-50% of the tire section height. As to claim 3, the outer end of the first block N1 of reinforcing cord layer 13 is clearly depicted within applicant's broad range of 10-75% of the tire

Art Unit: 1733

section height. As to claim 4, see translation paragraphs 0013. As to claim 7, Figure 1 clearly depicts the carcass turnup height within applicant's broad range of 5-45% of the tire section height.

8. Claims 1-7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 05-246210 A in view of Japanese Patent Application 10-193925 A.

See JP '210 abstracts, figures, and translation: tread 2; sidewalls 3; radial carcass 6 turned up from inside to outside around bead cores 5 in respective bead portions 4; tapered bead filler rubber 19; and reinforcing cord layer 9 extending from slightly above the bead core toward the tread edge E, with rubberized cords inclined at 0-30° to the tire equatorial plane (translation paragraphs 0013-0037 and 0043-0050). Although JP '210 does not disclose spirally winding the cords of the reinforcing cord layer about the rotation axis of the tire, JP '925 teaches to spirally wind the cords of the reinforcing cord layer 9 in the JP '210 tire (translation paragraphs 0005-0006 and 0010) in order to eliminate the splice ("knot") in the JP '210 reinforcing cord layer 9 and thus improve uniformity in the tire. It would therefore have been obvious to one of ordinary skill in the art to spirally wind the cords of the reinforcing cord layer 9 in the JP '210 tire around the rotation axis of the tire in order to eliminate the splice ("knot") in the JP '210 reinforcing cord layer 9 and thus improve uniformity in the tire. As to claim 2, JP '210 Figure 1 clearly depicts the inner end of the reinforcing cord layer 9 within applicant's broad range of 3-50% of the tire section height. As to claim 3, JP '210 Figure 1 clearly depicts the outer end of the reinforcing cord layer 9 within applicant's broad range of 10-75% of the tire section height. As to claims 4 and 5, see JP '210 translation paragraph 0035. As to claim 6, see JP '210 translation paragraph 0034. As to claim 7, JP '210 Figure 1 clearly depicts the carcass turnup height within applicant's broad range of 5-45% of the tire section height. As to claims 9 and 10, see JP '210 translation paragraph 0028 and Figure 1.

Art Unit 1733

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 10-44721 A as applied to claims 1, 2, 4, 5, 7, 9, and 10 above, or alternatively over Japanese Patent Application 10-230714 A as applied to claims 1-4, 7, 9, and 10 above, and further in view of *Mechanics of Pneumatic Tires*.

Conventional values for bead filler rubber hardness fall within applicant's range of 65-83, as evidenced by *Mechanics of Pneumatic Tires* p. 881 for example; it would therefore have been obvious to one of ordinary skill in the art to provide such conventional bead filler rubber hardness in the above tires.

10. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application 10-44721 A as applied to claims 1, 2, 4, 5, 7, 9, and 10 above, or alternatively over Japanese Patent Application 10-230714 A as applied to claims 1-4, 7, 9, and 10 above, and further in view of Ueyoko et al. (5,772,811).

It is well known to provide a reinforcing rubber sheet having a thickness in applicant's range between the carcass and its turnup from the bead filler to the height of the carcass turnup in order to prevent ply separation due to shearing forces caused by tire deflection during running, as evidenced by Ueyoko et al. (col. 5 lines 16-22) for example. It would therefore have been obvious to one of ordinary skill in the art to provide such a well known reinforcing rubber sheet in the above tire in order to prevent ply separation due to shearing forces caused by tire deflection during running.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following Japanese Patent Applications disclose tires similar to applicant's but do not disclose spirally winding the reinforcing cord layer: JP 2-234812 A; JP 4-278810 A; JP 8-91026 A; JP 9-86110 A; JP 9-193624 A; and JP 9-193625 A.

Art Unit: 1733

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrienne C. Johnstone whose telephone number is (703)308-2059.

The examiner can normally be reached on Monday-Friday, 10:00AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703)308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9311 for regular communications and (703)872-9310 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Adrienne C. Johnstone
Primary Examiner
Art Unit 1733

Adrienne Johnstone
May 19, 2003

A handwritten signature in cursive script that reads "Adrienne C. Johnstone". The signature is written in dark ink and is positioned to the right of the typed name and title.